

1st / 2nd (A)

# Problem Solving with Percents

Name Key

1. If the sales tax rate is  $5\frac{1}{2}\%$ , what is the sales tax on a jacket prices at \$45.89?

$$45.89 \times 5\frac{1}{2}\% = 2.52 \quad \$2.53$$

2. Kay had \$75 in a savings account. The interest rate is 7%. How much does she have in her account at the end of one year?

$$75 \times .07 = 5.25 + 75 = \$80.25$$

3. If George earns  $13\frac{1}{2}\%$  commission on his sales, how much does he earn on sales of \$2,042.98?

$$2042.98 \times 13\frac{1}{2}\% = \$275.80$$

4. The regular price of a microwave oven is \$289.59. What is the sale price if it is discounted 20%?

$$289.59 \times .2 = 57.92 \quad 289.59 - 57.92 = 231.67$$

$$231.68$$

5. Tonya saved \$800 toward the cost of a racing bike. If the bike costs \$1,342 plus 6% sales tax, how much will Tonya need to borrow in order to buy it?

$$1342 \times .06 = 80.52 + 1342 = 1422.52 - 800 = \$622.52$$

6. Mrs. Anderson's insurance company refunds 80% of medical expenses. How much money will she get back for expenses of \$462.50?

$$462.5 \times .8 = \$370$$

7. Ben saved \$12 by buying a car radio at a 15% discount. What was the original price?

$$12 = P \times .15$$

$$\frac{12}{.15} = .15P / .15$$

$$P = \$80$$

$$\frac{15}{100} = \frac{12}{P}$$

8. Last month, Sally's phone bill was \$32.50 and \$20.15 of this was for long distance calls. What percent of the bill was for long distance calls?

$$\frac{20.15}{32.50} = 62\%$$

9. A bicycle that sells for \$149.95 is on sale for 22% off. Estimate the sale price.

$$150 \times \frac{1}{5} = 30 \quad 150 - 30 = \$120$$

10. A big screen TV is on sale for 33% off of \$1,499. Find the total price you would pay if there is a 6% sales tax.

$$1499 \times .33 = 494.67 \quad 1499 - 494.67 = 1004.33$$

$$\times .06$$

11. Your bill at the Angus Barn was \$357.24. Mentally calculate what a 15% tip would be.

$$360 \times 10\% = 36$$

$$5\% \quad 18$$

$$54$$

$$1004.33$$

$$+ 60.26 \text{ tax}$$

$$+ 1004.33$$

$$\$1064.59$$

12. Kelly deposited \$50 into an account that pays her 8% simple interest. What is her balance after 10 years?

$$50 \times .08 \times 10 = 40 + 50 = 90$$

13. All cookies at the bakery are the same price. Kathy bought 12 cookies for \$9. Ben bought \$5.25 worth of cookies. How many cookies did Ben buy?

$$\frac{12}{\$9} = \frac{x}{\$5.25} \quad 63 = 9x \quad 7 = x$$

14. Last year the swim club raised \$30 through fund raising. This year, its goal is 350% of last year's amount. If the club reaches its goal, how much money would that be?

$$30 \times 350\% = \$105$$

15. Derek borrowed \$25 from Craig. Derek has to repay the money in 3 months at 20% simple interest. How much will Derek owe Craig?

$$25 \times .2 \times \frac{1}{4} = 1.25 + 25 = \$26.25$$

16. Alex and his dad played 44 games of Chess. Alex won 32 of the games. To the nearest percent, what percent of the games did Alex win?

$$\frac{32}{44} = .727 \quad 73\%$$

17. To make chocolate chip cookies, you need 1 cup of sugar for every 3 cups of flour. If 3 cups of sugar are used, how many cups of flour must be used?

$$\frac{1}{3} = \frac{3}{x} \quad x = 9 \text{ cups}$$

18. Sam makes a commission of 6% on all the cars he sells. If he sell a car for \$12,500, how much money does he make in commission?

$$12,500 \times 6\% = \$750$$

19. Julie works at a pizza place. She receives a 15% discount on any pizza she buys. If a large pizza costs \$16.99, what does she have to pay for a pizza?

$$16.99 \times .15 = \$2.55 \quad 16.99 - 2.55 = \$14.44$$

20. Bob's Used Auto Sales has 20 cars and 6 pickup trucks on the lot. What is the ratio of pickup trucks to cars on the lot? What percent is this? (in lowest terms)

$$\frac{6}{20} \quad 30\% \quad \left( \frac{3}{10} \right)$$